

## Engineering and Scientific Research Associates (ESRA)

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health



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### Company Profile

**Industry Sector:** Medical Devices

**Company Overview:** ESRA is the research company that produced the respiratory diagnostic device (APD)

**Target Market(s):** Respiratory physicians and clinics, primary physicians, family physicians, hospitals

### Key Value Drivers

**Technology:** We have developed a respiratory diagnostic device that can identify respiratory disorders non-invasively and rapidly. The advantages of the device are many. It is based on natural breathing and requires no effort on the part of the patient beyond natural breathing for less than a minute.

**Competitive Advantage:** There are 2 types of competitive devices; 1) spirometers, and 2) Impulse Oscillometry. The first group requires the patients to forcefully breathe into the device. This is not very reliable and excludes children and elderly/weak patients. The second group works similar to our device, but they are very expensive and extensive training is required to use these devices, contrary to APD that anyone with less than 30 second of training can properly use the device. Another unique advantage of the APD is that it is the only device that can diagnose respiratory disorders in inhalation as well as exhalation. There are specific disorders associated with each inhalation or exhalation that other respiratory diagnostic devices cannot distinguish.

### Management

The activities of ESRA are conducted under the leadership of Drs. J. Vossoughi and A. Johnson. Engineers are involved and several physicians are conducting the clinical trials of the device (APD) at various clinical centers. Once the device is ready for manufacturing another company will be formed that will manufacture, and market the device. At that time, business, marketing and other appropriate personnel will be brought in the new company. Scientific, business, marketing, and clinical advisory committees will then be formed.

### Product Pipeline

ESRA is an R&D company that developed APD. APD is a respiratory diagnostic device that is simple to use and provides accurate diagnosis of respiratory disorders. In particular there is no such device for children and infants.

The market for APD is estimated to be approximately \$250 million dollars per year for the next 5 years. With aggressive marketing, etc this is achievable and can be rapidly materialized if the investment funds are available.

